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Unreported plants from Glacier National Park

PAUL W. GRAFF

Our national parks are each season attracting a greater number of vacationists drawn to them by the beauties of nature, some only by the great attractions of mountain scenery but many by all the varying phases of nature to be enjoyed in these national playgrounds. To the person of botanical or zoological interests Glacier Park is one of the most attractive. Its high rugged peaks, deep valleys, numerous glaciers and lakes, streams and cascades offer a great amount of variation. The Continental Divide passes through the Park with the result that the drainage of the western portion is into the Columbia River, while the northeastern part slopes toward the Hudson Bay, and the eastern into the Missouri River drainage. A greater amount of variation will be found here and with less sophistication than in any other of our park areas.

In the herbarium of the University of Montana Biological Station at Yellow Bay are a number of plants which have been collected at the Park. Among these are a number which have not as yet been reported from that region even in Standley's recent publication.* The present list is offered as an addition and slight contribution to the knowledge of the flora of this region. Of the thirty-two species here listed twelve have not before been reported from the state of Montana. The names of these twelve are preceded by a dagger (†). Two of these, *Carex Heleonastes* Ehrh., and *Salix reticulata* L., have not, so far as I am aware, been reported from the United States. They are Canadian species which have entered this country in the high mountains of this region, both being extreme northern forms.

† 1. DANTHONIA PINETORUM Piper, Fl. Northw. Coast 46. 1915. *D. spicata* var *pinetorum* Piper, Erythea 7: 103. 1899. *D. thermalis* Scribn. U. S. Dept. Agr. Div. Agrost. Circ. 30: 5. 1901.

Mineral Park, August 10, 1910, *M. E. Jones*, at 1800 meters elevation.

This is a northwest coast plant which has been reported as

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*Flora of Glacier National Park. Contr. U. S. Nat. Herb. **22**: 235–438. *pl. 33–52.* 1921.

being found to the eastward in Wyoming and Idaho, but not as yet in the state of Montana.

2. POA CUSICKII Vasey, Contr. U. S. Nat. Herb. **1:** 271. 1893.

Mineral Park, August 8, 1910, *M. E. Jones*, at 2400 meters elevation.

Reported from British Columbia, south to Oregon and eastward through Idaho and western Montana.

3. POA NEVADENSIS Vasey, Bull. Torrey Club **10:** 66. 1883.

Greenwood's Camp, August 15, 1910, *M. E. Jones*, at an elevation of 1350 meters.

Reported from British Columbia southward to Arizona, and eastward to North Dakota and Colorado.

4. BROMUS EXIMIUS (Shear) Piper, Contr. U. S. Nat. Herb. **11:** 143. 1906. *B. vulgaris* var. *eximius* Shear, U. S. Dept. Agr. Div. Agrost. Bull. 23: 44. 1900.

Greenwood's Camp, August 15, 1910, *M. E. Jones*, at 1350 meters elevation.

This is primarily a Pacific coast plant, being found from British Columbia southward to California. To the eastward of this range it is found in the states of Montana and Wyoming.

5. ERIOPHORUM POLYSTACHYON L. Sp. Pl. 52. 1753.

Mineral Park, August 12, 1910, *M. E. Jones*, at 1800 meters elevation.

This is primarily a Canadian species which has been found to the southward in the Rockies and in the North Atlantic States.

† 6. CAREX AQUATILIS Wahl. Kongl. Vet. Akad. Handl. II. **24:** 165. 1903.

Bowman Lake, August 19, 1910, *M. E. Jones*, at 1200 meters elevation; Grinnell Glacier, August, 1911, *M. J. Elrod*, at 2100 meters elevation.

A Pacific coast and Canadian species, also reported southward in the Atlantic States.

7. CAREX DEWEYANA Schwein. Ann. Lyc. New York **1:** 65. 1824.

Waterton Lake, August 17, 1910, *M. E. Jones*, at 1200 meters elevation.

This is a northern species with a range extending southward in both the Appalachians and Rockies. It has been reported from Montana, but not from the Park region.

8. CAREX FESTIVA Dewey, Am. Jour. Sci. **29**: 246. 1835.

Sperry Glacier, August 27, 1909, *M. E. Jones*, at 2250 meters elevation; Grinnell Lake, August 10, 1911, *M. J. Elrod*, at 2100 meters elevation.

Found from California to the Arctic regions on the coast, and in the Rocky Mountains

†9. CAREX FOENEA Willd. Enum. 957. 1809.

Waterton Lake, August 17, 1910, *M. E. Jones*, at an elevation of 1200 meters

This is primarily a Canadian species which has crept down into our range. Its range is from New Brunswick to Pennsylvania, thence northwestward to Minnesota, British Columbia, and the Yukon.

10. CAREX GOODENOVII J. Gay, Ann. Sci. Nat. II, **11**: 191. 1839.
C. caespitosa Gooden., Trans. Linn. Soc. **2**: 195. *pl. 21*, 1794.
Not Linn. 1753.

Lake Mc Donald, August 2, 1910. *M. E. Jones*, at 900 meters elevation. Mineral Park, August 10, 1910, *M. E. Jones*, at an altitude of 1800 meters.

Found from Newfoundland and Pennsylvania westward to Alaska and Colorado.

† 11. CAREX HELEONASTES Ehrh.; L. f. Suppl. 414. 1781.

Sperry Glacier, August 27, 1909, *M. E. Jones*, at an altitude of 2250 meters, growing in a damp locality among moss.

While reported from the Upper Temperate and Alpine Life Zones in Canada, from Ontario and the Hudson Bay region westward to British Columbia, this species does not seem to have been reported from this side the "Border." It is essentially a northern plant which has found its way into the United States in the high altitudes of the Park.

†12. CAREX HORMATHODES Fernald, Rhodora **8**: 165. 1906.

Blackfoot Glacier, August 30, 1909, *M. E. Jones*, at 2100 meters elevation.

Reported previously from British Columbia, but not from the northwestern United States.

†13. CAREX MONILE Tuckerm. Enum. Meth. 20. 1843.

Grinnell Lake, August 20, 1911, *M. J. Elrod*, at 1500 meters elevation.

This differs from *C. vesicaria* L., with which it is sometimes confused, in the possession of three stigmas rather than two and in the presence of more than one staminate spike. The variety *colorata* Bailey has been reported from Yellowstone

Park, but the typical form of the species has not been reported from Montana.

Reported south of our range in Wyoming, and across the United States. It is also found along the Pacific coast from California to Alaska.

†14. CAREX POLYGAMA Schkuhr, Riedgr. **1**: 84. 1801.

Waterton Lake, August 17, 1910, *M. E. Jones*, at an elevation of 1200 meters.

Reported well to the northward on both coasts, and across the United States from California through Utah, Colorado, and Missouri to the Atlantic coast. It is a southern species which has found a congenial habitat to the northward on both seaboards.

†15. CAREX SAXATILIS L. Sp. Pl. 976. 1753.

Bowman Lake, August 19, 1910, *M. E. Jones*, at 1200 meters elevation.

C. saxatilis is an arctic species found across North America from Labrador to Alaska. It has been reported as entering the United States in the mountainous portion of Maine, but has not been reported from the western states except in the high mountains of Colorado. It is essentially an arctic plant, and is found also in the extreme northern portion of Europe and Asia.

16. SALIX ORBICULARIS Anders.; De Candolle, Prodromus **16**^{2}: 300. 1868.

Flat-top Mountain, August, 1911, *M. J. Elrod*, at 1900 meters elevation; Iceberg Lake, August 18, 1911, *M. J. Elrod*, at 1800 meters elevation.

Reported previously from the Sperry Glacier region under the name *S. reticulata* L.

This is an extreme northwestern species found from Alaska to Hudson Bay, and southward into the United States in the Rocky Mountains.

†17. SALIX RETICULATA L. Sp. Pl. 1018. 1753. Not Porter & Coulter.

Blackfoot Glacier, August 31, 1909, *M. E. Jones*, at an elevation of 2100 meters.

This species has been considered previously as purely Canadian. It has been reported from the Canadian Rockies and northward to Alaska and Hudson Bay. *Salix saximontana* Rydb. has been reported from this region with *S. reticulata* L.

as a synonym, an error for *S. reticulata* Porter & Coulter, a quite distinct species.

18. ERIOGONUM OVALIFOLIUM Nutt. Jour. Philad. Acad. **7:** 50. *pl. 8.* 1834.

Brown's Pass, August 13, 1911, *M. J. Elrod,* at 2580 meters elevation.

A western species found from New Mexico northward through California and Colorado to British Columbia.

19. POLYGONUM BISTORTOIDES Pursh, var. LINEARIFOLIUM (Wats.) Small, Bull. Torrey Club **19:** 252. 1892.

Iceberg Lake, August 18, 1911, *M. J. Elrod,* at an elevation of 1800 meters.

Found from New Mexico northward within the Rocky Mountains through Canada to the Arctic regions.

20. SILENE DOUGLASII Hook. Fl. Bor. Am. **1:** 88. 1840.

Sperry Glacier, August 27, 1909, *M. E. Jones,* at 2250 meters elevation.

Rather a common plant in the Rockies, and on the coast from Washington to California.

21. ARENARIA SUBCONGESTA (Wats.) Rydb., Bull. Torrey Club **24:** 244. 1897.

Brown's Pass, August 13, 1911, *M. J. Elrod,* at 2580 meters elevation.

This species is common in the Rocky Mountain region. It seems to be the same as *A. lithophila* Rydb. and *A. Burkei* Howell and should possibly be considered only a variety of *A. congesta* Nutt.

22. ARAGALLUS MONTICOLA (Gray) Greene, Pittonia **3:** 212. 1897.

Mineral Park, August 8, 1910, *M. E. Jones,* at 2100 meters elevation; Brown's Pass, August 13, 1911, *M. J. Elrod,* at 2580 meters elevation.

Not uncommon in the mountains from Wyoming northward.

23. POLEMONIUM CONFERTUM Gray, Proc. Acad. Philadelphia **1863:** 73. 1864.

Brown's Pass, August 13, 1911, *M. J. Elrod,* at 2580 meters elevation.

A high elevation plant found in the mountains of Utah, Colorado, Wyoming, and Montana; occasionally in northern New Mexico and California.

24. PHACELIA FRANKLINII (R. Br.) Gray, Manual, Ed. 2, 329. 1856.

Mineral Park, August 8, 1910, *M. E. Jones*, at 2400 meters elevation; Brown's Pass, August 13, 1911, *M. J. Elrod*, at 2580 meters elevation.

From southern Idaho, Wyoming, and Michigan northward to Hudson Bay and Alaska.

† 25. LAPPULA CILIATA (Dougl.) Greene, Pittonia **2:** 182. 1891.

Mineral Park, August 12, 1910, *M. E. Jones*, at 1800 meters elevation.

Reported from the states of Washington and Idaho.

26. PENTSTEMON MENZIESII Hook. Fl. Bor. Amer. **2:** 98. 1840. *P. fruticosus* (Pursh) Greene, Pittonia **2:** 239. 1892.

Sperry Glacier, August 27, 1909, *M. E. Jones*, at 2250 meters elevation; Brown's Pass, August 13, 1911, *M. J. Elrod*, at 2580 meters elevation.

Found from California and Colorado northward to British Columbia and Alberta.

† 27. VERONICA CUSICKII Gray, Syn. Flor. **2:** 288. 1878.

Mineral Park, August 9, 1910, *M. E. Jones*, at 1800 meters elevation.

Previously reported only from the high mountain regions of the three states, Washington, Oregon, and Idaho.

28. VALERIANA OCCIDENTALIS Heller, Bull. Torrey Club **25:** 269. 1898. *V. sylvatica* Banks; Richards, Frankl. Journ. Ed. 2, Appendix 2. 1823. Not Schmidt, 1795. *V. wyomingensis* E. Nels. Erythea **7:** 167. 1899.

Swift-Current Pass, August 11, 1910, *M. E. Jones*, at 2100 meters elevation.

Found from Labrador and Quebec across Canada to British Columbia, and southward through Washington and Montana to Colorado and Utah.

29. SOLIDAGO PURSHII Porter, Bull. Torrey Club **21:** 311. 1894. *S. humilis* Pursh, Fl. Am. Sept. 543. 1814. Not Mill.

Brown's Pass, August 13, 1911, *M. J. Elrod*, at 2580 meters elevation; Iceberg Lake, August 18, 1911, *M. J. Elrod*, at 1800 meters elevation.

Found in the Rocky Mountains from New Mexico to British Columbia and northward.

30. ERIGERON GRANDIFLORUS Hook. Fl. Bor. Am. **2**: 18. *pl. 123*. 1840.

Sperry Glacier, August 27, 1909, *M. E. Jones*, at an elevation of 2250 meters.

Reported from Colorado to the extreme north; more especially in the high elevations of the Canadian Rockies.

† 31. ANTENNARIA ALPINA (L.) Gaertn. Fr. et Sem. **2**: 410. 1791.
Gnaphalium alpinum L. Sp. Pl. 856. 1753.

This is essentially a Canadian species found across the continent from Labrador to Alaska, but extending southward into the United States in the Rockies and Sierras.

32. SENECIO AUREUS L. Sp. Pl. 870. 1753.

Brown's Pass, August 13, 1911, *M. J. Elrod*, at 2580 meters elevation; Iceberg Lake, August 18, 1911, *M. J. Elrod*, at 1800 meters elevation.

This species is close to Rydberg's *S. crocatus* of Colorado, Wyoming, and the northern Rockies. Its range is from Alaska to California, and across the continent.

UNIVERSITY OF MONTANA BIOLOGICAL STATION,
YELLOW BAY, MONTANA